AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-11 (cancelled).

12. (New) A pressure sensor comprising:

a diaphragm which is at least one of differently deformable and locally changeable by pressure differences, at least one functional section of the diaphragm having a material which has at least one of: i) properties of a black-body radiator, and ii) an emissivity essential for detection in a spectral radiation range corresponding to a temperature of the diaphragm under its conditions of use; and

a radiation receiver unit which detects at least a portion of radiation emitted by the at least one functional section of the diaphragm, the radiation receiver unit including at least one infrared radiation sensor.

13. (New) The pressure sensor as recited in claim 12, wherein the functional section is positioned in a central area of the diaphragm and is implemented by a coating with the material, and the functional section is surrounded by a section which has a lower emissivity at least in the radiation range corresponding to the temperature of the diaphragm under the conditions of use.

14. (New) The pressure sensor as recited in claim 12, wherein the functional section is coated with at least one of carbon black, iron oxide, oxidized copper, and oxidized steel.

15. (New) The pressure sensor as recited in claim 12, wherein the section which is the lower emissivity has a gold plating.

16. (New) The pressure sensor as recited in claim 12, further comprising:

an infrared conductor which is transparent at least in the spectral radiation range corresponding to the conditions of use of the diaphragm, the infrared conductor being positioned between the radiation receiver unit and the diaphragm.

17. (New) The pressure sensor as recited in claim 16, wherein the infrared conductor at least one of: i) has a tubular section having a treated inner wall surface for guiding infrared radiation emitted by the diaphragm, and ii) has a dielectric waveguide for guiding the infrared radiation emitted by the diaphragm.

18. (New) The pressure sensor as recited in claim 17, wherein the infrared conductor has the tubular section, and bears a smooth surface having a roughness smaller than relevant wavelengths and a coating reflecting at least most of the infrared radiation of the diaphragm.

19. (New) The pressure sensor as recited in claim 17, wherein the infrared conductor has the dielectric waveguide and is made of at least one of germanium, sapphire, quartz, calcium fluoride, and sodium chloride.

20. (New) The pressure sensor as recited in claim 16, wherein the infrared conductor has lens elements.

21. (New) The pressure sensor as recited in claim 12, wherein the infrared radiation sensor has a radiation sensitivity tailored to an infrared radiation of the diaphragm, and the radiation receiver unit is adapted to an oscillation frequency of the diaphragm.

22. (New) The pressure sensor as recited in claim 12, wherein the infrared radiation sensor has one of a pyroelectric detector, a bolometer, or a thermopile.

23. (New) The pressure sensor as recited in claim 12, further comprising:

a cooling device assigned to the infrared radiation sensor.

24. (New) The pressure sensor as recited in claim 12, wherein an infrared filter for selecting a radiation band relevant to a pressure measurement is connected upstream from the infrared radiation sensor.

25. (New) The pressure sensor as recited in claim 12, wherein the radiation receiver unit has two infrared radiation sensors, upstream from which infrared filters of different spectral transparencies are positioned and wherein an analysis unit is implemented in such a way that

radiation components detected by the two infrared radiation sensors are separated into the components originating from deflections of the diaphragm and the components originating from temperature changes of the diaphragm.